

**Clouds and the Earth's Radiant Energy System
(CERES)**

Data Management System

**CERES Synoptic SARB
(Subsystem 7.2)**

**Release 3 Test Plan
TRMM Launch
Version 2**

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1.0 Introduction

The Clouds and the Earth's Radiant Energy System (CERES) is a key component of the Earth Observing System (EOS). The CERES instrument provides radiometric measurements of the Earth's atmosphere from three broadband channels: a shortwave channel (0.3 - 5 μm), a total channel (0.3 - 200 μm), and an infrared window channel (8 - 12 μm). The CERES instruments are improved models of the Earth Radiation Budget Experiment (ERBE) scanner instruments, which operated from 1984 through 1990 on the National Aeronautics and Space Administration's (NASA) Earth Radiation Budget Satellite (ERBS) and on the National Oceanic and Atmospheric Administration's (NOAA) operational weather satellites NOAA-9 and NOAA-10. The strategy of flying instruments on Sun-synchronous, polar orbiting satellites, such as NOAA-9 and NOAA-10, simultaneously with instruments on satellites that have precessing orbits in lower inclinations, such as ERBS, was successfully developed in ERBE to reduce time sampling errors. CERES continues that strategy by flying instruments on the polar orbiting EOS platforms simultaneously with an instrument on the Tropical Rainfall Measuring Mission (TRMM) spacecraft, which has an orbital inclination of 35 degrees. In addition, to reduce the uncertainty in data interpretation and to improve the consistency between the cloud parameters and the radiation fields, CERES includes cloud imager data and other atmospheric parameters. The CERES instruments fly on the TRMM spacecraft, on the EOS-AM platforms and on the EOS-PM platforms. The TRMM satellite carries one CERES instrument while the EOS satellites carry two CERES instruments, one operating in a fixed azimuth scanning mode and the other operating in a rotating azimuth scanning mode.

1.1 Document Overview

This document, the CERES Release 3 Delivery Test Plan for the CERES Synoptic Surface and Atmospheric Radiation Budget (SARB) Subsystem (Subsystem 7.2), is part of the CERES Subsystem 7.2 Release 3 delivery package provided to the Langley Atmospheric Sciences Data Center (ASDC). It provides a description of the CERES Synoptic SARB Subsystem Release 3 software, and explains the procedures for installing, executing, and testing the software. A section is also included on validating the results of executing the software. A description of acronyms and abbreviations is provided in [Appendix A](#), a directory structure diagram is contained in [Appendix B](#), and a description of the software and data files is contained in [Appendix C](#).

The document is organized as follows:

[Section 1.0](#) - Introduction

[Section 2.0](#) - Software and Data File Installation Procedures

[Section 3.0](#) - Test and Evaluation Procedures

[Appendix A](#) - Acronyms and Abbreviations

[Appendix B](#) - Directory Structure Diagrams

[Appendix C](#) - File Description Tables

1.2 Subsystem Overview

1.2.1 CER7.2.1P1: CERES Synoptic SARB Subsystem Main-Processor

The Product Generation Executive (PGE) CER7.2.1P1 processes the CERES Synoptic SARB Subsystem. This PGE consists of a Main-Processor only. The Synoptic SARB Subsystem Main-Processor computes vertical longwave, shortwave, and window channel flux profiles that span from the surface to the top of the Earth's atmosphere for each CERES region within a 1-degree latitudinal zone for each hour of the month. The primary output is the Synoptic Intermediate (SYNI) product, which contains vertical flux profile data for all CERES regions. An ASCII Quality Control (QC) report is also produced with each run of the Subsystem.

The SYNI serves as input for CERES Subsystem 8.0, PGE CER8.1P1.

2.0 Software and Data File Installation Procedures

This section describes how to install both the SARB library and the Subsystem 7.2 Synoptic SARB software in preparation for making the necessary test runs at the Langley ASDC. The installation procedures include instructions for uncompressing and untarring the delivered files, properly defining environmental variables, and compiling the Synoptic SARB programs.

2.1 Installation

Software/Data File Install Procedure:

1. The scripts, makefiles, and Process Control Files (PCF) in the Subsystem 7.2 delivery package expect the following environment variables, found in the **\$CERESENV** script, to be defined:

PGSDIR	- Directory for Toolkit libraries
CERESHOME	- Top Directory for CERES Software
CERESLIB	- Directory for CERESlib
PGSINC	- Pointer to the PGS Include file directory
PGSLIB	- Directory which contains the SGI 64-bit Toolkit library file
PGSMMSG	- Directory which contains Toolkit and CERES Status Message Files
HDFDIR	- Pointer to the HDF home directory

The included makefiles for the Main-Processor (SARBlb and Synoptic SARB-only code) redefine the following environment variables:

FCOMP	- Fortran 77 compilation flags (-O2 -c -64)
F90COMP	- SGI Fortran 90 compilation flags (use the following options: -w -O2 -c -64)

2. Change directory to the directory where you plan to install the SARB Subsystems. (The following instructions assume that the directory will be **\$CERESHOME**.)
3. Uncompress and untar the SARB library and Synoptic SARB Subsystem files:

```
uncompress SynSARB_data_R4-550.tar.Z
tar xf SynSARB_data_R4-550.tar
uncompress SynSARB_src_R4-550.tar.Z
tar xf SynSARB_src_R4-550.tar
uncompress SynSARB_anc_R4-550.tar.Z
tar xf SynSARB_anc_R4-550.tar
```

4. If the delivery is a full subsystem delivery then the files from previous deliveries should be removed using the **\$CERESHOME/SynSARB_OldFileRemove.csh** script before the newly untarred files are copied into the **/SSIT/CERES** directory. This script removes all of the old Synoptic SARB files except the ones in the **\$CERESHOME/sarb/data/ancillary/**

static/sarbsyn directory and the source code files in the \$CERESHOME/sarb/lib/src directory.

2.2 Compilation

Software modules common to more than one SARB PGE are contained in the SARB library. Since many modules and their associated error messages are shared between SARB subsystems, all error message files are stored in one directory. The instructions for compiling these portions of the subsystem follow. Instructions for generating the executable for PGE CER 7.2.1P1 are contained in [Section 2.2.1](#).

1. The Status Message Files can be made by typing:

```
cd $CERESHOME/sarb/smf/sarb  
make clean  
make
```

2. The SARB Library can be made by typing:

```
cd $CERESHOME/sarb/lib/src  
make clean -f Makefile.SYN  
make -f Makefile.SYN
```

As this is a software library, no executable is generated. The message “Warning: creating SARBlib_SYN.a” appears at the end of successful compilation. The file, **SARBlib_SYN.a**, remains in the \$CERESHOME/sarb/lib/src directory.

2.2.1 Compiling PGE 7.2.1P1

1. The Subsystem 7.2 Main-Processor executable can be made by typing:

```
cd $CERESHOME/sarb/src/sarbsyn/mainss7_2  
make clean  
make
```

The resulting executable, **SynSARB_Drv.exe**, is stored in the directory \$CERESHOME/sarb/bin/sarbsyn.

2. Execute the following to compile the comparison software for the Main-Processor output:

```
cd $CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2  
make clean  
make
```

The resulting executable, **synicomp.exe**, remains in the directory \$CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2.

3.0 Test and Evaluation Procedures

This section provides general information on how to execute the Subsystem 7.2 PGE and provides an overview of the test and evaluation procedures. It includes a description of what is being tested and the order in which the tests should be performed.

3.1 PGE CER7.2.1P1--Main-Processor TRMM Test Case

3.1.1 Stand Alone Test Procedures

The Main-Processor production script, `runsarb`, references a Process Control File (PCF) which contains the correct file names and paths for the test procedures. The PCF is created by first executing an ASCII file generator, `ascii_gen_7.2.1P1`, and then executing the PCF generator, `pcfgen_7.2.1P1`.

In the production environment, `ascii_gen_7.2.1P1` and `pcfgen_7.2.1P1` must be executed to create the PCF for each production run. The ASCII file generator, `ascii_gen_7.2.1P1`, requires one command line argument--the date/zone parameter, formatted as `YYYYMMZxxx`, where `YYYY` is the 4-digit year, `MM` is the 2-digit month, `Z` is a constant and `xxx` is the 3-digit latitudinal zone index. The PCF generator, `pcfgen_7.2.1P1`, is then executed using the newly created ASCII input file name as a command line argument. Execute the production script by typing the script name, `runsarbsyn`, followed by the name of the PCF generated by `pcfgen_7.2.1P1`.

3.1.1.1 PCF Generation and Execution

1. Generate the ASCII input file for the TRMM test case:

```
cd $CERESHOME/sarb/bin/sarbsyn  
source $CERESHOME/sarb/bin/sarbsyn/ssit-main-env-TRMM.csh
```

Sourcing the Latis environment file sets the Instance-dependent variables:

```
$DATE = 199807Z090  
$INSTANCE = TRMM-PFM-VIRS_SSIT_999999.199807Z090
```

Execute the ASCII file generator:

```
$CERESHOME/sarb/bin/sarbsyn/ascii_gen_7.2.1P1 $DATE
```

The following file will be generated in `$CERESHOME/sarb/rcf/PCFgen/sarbsyn`:

- **CER7.2.1P1_PCFin_\$INSTANCE**

2. Generate the PCF for the test case:

```
cd $CERESHOME/sarb/bin/sarbsyn  
$CERESHOME/sarb/bin/sarbsyn/pcfgen_7.2.1P1  
CER7.2.1P1_PCFin_$INSTANCE
```

The following PCF will be generated in **\$CERESHOME/sarb/rcf/pcf/sarbsyn**:

- **CER7.2.1P1_PCF_\$INSTANCE**

3. Compare the PCF for the test case with the PCF provided in this delivery, using the diff command:

```
diff $CERESHOME/sarb/rcf/pcf/sarbsyn/CER7.2.1P1_PCF_$INSTANCE  
$CERESHOME/sarb/data/out_exp/data/sarbsyn/CER7.2.1P1_PCF_$INSTANCE
```

The only differences between the files should be in the directory paths where the tests were run.

4. Copy the TSIB input file provided with this delivery, and link to the to the directories to which the PCF is pointing by typing:

```
cd $CERESHOME/sarb/data/input/sarbsyn  
CER7.2P1_InputFileMover.csh copyfiles
```

5. Execute the test case by typing:

```
cd $CERESHOME/sarb/bin/sarbsyn  
runsarbsyn CER7.2.1P1_PCF_$INSTANCE
```

Four files will be created by the Main-Processor:

- **\$CERESHOME/sarb/data/out_comp/data/sarbsyn/CER_SYNI_\$INSTANCE**
- **\$CERESHOME/sarb/data/out_comp/data/sarbsyn/**
CER_SYNI_\$INSTANCE.met
- **\$CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/**
CER_KQCR_\$INSTANCE
- **\$CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/**
CER_KQCR_\$INSTANCE.met

3.1.1.1.1 Exit Codes

All CER7.2.1P1 software terminates using the CERES defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0. This test should complete with an exit code of 0 for each of the two executables.

3.1.1.1.2 Test Summary

Total Run Time:	8 hours 10 minutes
Memory:	69200 K
Required Disk Space:	6615 MB

3.1.1.2 Metadata Evaluation

Metadata files which end in extension, '.met', are located in the same directories as their corresponding output files after CER7.2.1P1 has been executed. Compare the metadata contained in these files with the expected contents of the files with the same names found in directory \$CERESHOME/sarb/data/out_exp/data/sarbsyn, using the diff command.

The only differences between the files should be the production times and differences in the directory paths where the tests were run.

```
diff $CERESHOME/sarb/data/out_comp/data/sarbsyn/  
CER_SYNI_$INSTANCE.met $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER_SYNI_$INSTANCE.met
```

```
diff $CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/  
CER_KQCR_$INSTANCE.met $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER_KQCR_$INSTANCE.met
```

3.1.1.3 Execution of Comparison Software for the Main-Processor

This section provides information on how to execute the comparison software for the Synoptic SARB Subsystem PGE CER7.2.1P1.

1. Execute the following to compare the binary output from the Main-Processor Full-Hour Mode test case. Note that this software does not compare the HDF version of the CRS.

```
cd $CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2  
run_syni_compare CER_SYNI_$INSTANCE
```

One file will be created:

- \$CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2/
CER_SYNI_\$INSTANCE_test_suites_results

NOTE: The script run_syni_compare removes any output files leftover from previous executions if they exist. If a file the script is attempting to remove does not exist, a message is written to the screen.

2. Compare the Quality Control Report for the Mode against the expected output:

First, try to remove old output files IF they exist:

```
cd $CERESHOME/sarb/data/out_exp/data/sarbsyn  
rm CER7.2.1P1_MainQC_diff
```

```
diff $CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/  
CER_KQCR_$INSTANCE $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER_KQCR_$INSTANCE > $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER7.2.1P1_MainQC_diff
```

The only differences should be in the Processing Date information in the Quality Control Report Header. Some mismatches might occur due to computer precision, thus, there is no need for immediate alarm.

3.1.1.4 Evaluation of Main-Processor Comparison Software Output

This section provides the procedure for evaluating the output from the Synoptic SARB Subsystem 7.2.

1. Examine the comparison report files for the Main-Processor:

```
more $CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2/  
CER_SYNI_$INSTANCE\_test_suites_results
```

If all goes well, there will be a line indicating that no mismatches were found when comparing the results produced by the Langley ASDC with those produced by the CERES team. Some mismatches might occur due to computer precision, thus, there is no need for immediate alarm. Just perform Step 2.

2. E-mail the files `$CERESHOME/sarb/test_suites/sarbsyn/mainss7_2/CER_SYNI_$INSTANCE_test_suites_results` and `$CERESHOME/sarb/data/out_exp/sarbsyn/CER7.2.1P1_MainQC_diff` to `ceresdmt+sarb@larc.nasa.gov`.

3.1.2 Solutions to Possible Problems

1. All output files must be deleted or renamed in order to run the production software properly again. To use the provided script, type the following:

```
cd $CERESHOME/sarb/bin/sarbsyn  
rm_script_7.2.1P1 CER7.2.1P1_PCF_$INSTANCE
```

2. Environment variables, FCOMP and F90COMP, must be set to the following SGI compiler options for the Main-Processor:

```
setenv F90COMP '-w -O2 -c -64'  
setenv FCOMP '-O2 -c -64'
```

3. A “No match” indicates there were no files to delete during execution of a script. This message does not indicate a problem.

3.2 PGE CER7.2.1P1--Main-Processor Terra Test Case

3.2.1 Stand Alone Test Procedures

The Main-Processor production script, runsarb, references a Process Control File (PCF) which contains the correct file names and paths for the test procedures. The PCF is created by first executing an ASCII file generator, ascii_gen_7.2.1P1, and then executing the PCF generator, pcfgen_7.2.1P1.

In the production environment, ascii_gen_7.2.1P1 and pcfgen_7.2.1P1 must be executed to create the PCF for each production run. The ASCII file generator, ascii_gen_7.2.1P1, requires one command line argument--the date/zone parameter, formatted as YYYYMMZxxx, where YYYY is the 4-digit year, MM is the 2-digit month, Z is a constant and xxx is the 3-digit latitudinal zone index. The PCF generator, pcfgen_7.2.1P1, is then executed using the newly created ASCII input file name as a command line argument. Execute the production script by typing the script name, runsarbsyn, followed by the name of the PCF generated by pcfgen_7.2.1P1.

3.2.1.1 PCF Generation and Execution

1. Generate the ASCII input file for the Terra test case:

```
cd $CERESHOME/sarb/bin/sarbsyn  
source $CERESHOME/sarb/bin/sarbsyn/ssit-main-env-Terra.csh
```

Sourcing the Latis environment file sets the Date and Instance variables:

```
$DATE = 200107Z090  
$INSTANCE = Terra-FM1-MODIS_SSIT_999999.200107Z090
```

Execute the ASCII file generator:

```
$CERESHOME/sarb/bin/sarbsyn/ascii_gen_7.2.1P1 $DATE
```

The following file will be generated in \$CERESHOME/sarb/rcf/PCFgen/sarbsyn:

- **CER7.2.1P1_PCFin_\$INSTANCE**

2. Generate the PCF for the test case:

```
cd $CERESHOME/sarb/bin/sarbsyn  
$CERESHOME/sarb/bin/sarbsyn/pcfgen_7.2.1P1  
CER7.2.1P1_PCFin_$INSTANCE
```

The following PCF will be generated in **\$CERESHOME/sarb/rcf/pcf/sarbsyn**:

- **CER7.2.1P1_PCF_\$INSTANCE**

3. Compare the PCF for the test case with the PCF provided in this delivery, using the diff command:

```
diff $CERESHOME/sarb/rcf/pcf/sarbsyn/CER7.2.1P1_PCF_$INSTANCE  
$CERESHOME/sarb/data/out_exp/data/sarbsyn/CER7.2.1P1_PCF_$INSTANCE
```

The only differences between the files should be in the directory paths where the tests were run.

4. Copy the TSIB input file provided with this delivery, and link to the to the directories to which the PCF is pointing by typing:

```
cd $CERESHOME/sarb/data/input/sarbsyn  
CER7.2P1_InputFileMover.csh copyfiles
```

5. Execute the test case by typing:

```
cd $CERESHOME/sarb/bin/sarbsyn  
runsarbsyn CER7.2.1P1_PCF_$INSTANCE
```

Four files will be created by the Main-Processor:

- **\$CERESHOME/sarb/data/out_comp/data/sarbsyn/CER_SYNI_\$INSTANCE**
- **\$CERESHOME/sarb/data/out_comp/data/sarbsyn/CER_SYNI_\$INSTANCE.met**
- **\$CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/CER_KQCR_\$INSTANCE**
- **\$CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/CER_KQCR_\$INSTANCE.met**

3.2.1.1.1 Exit Codes

All CER7.2.1P1 software terminates using the CERES defined EXIT CODES for the Langley TRMM Information System (LaTIS). Successful completion is indicated by an exit code of 0. This test should complete with an exit code of 0 for each of the two executables.

3.2.1.1.2 Test Summary

Total Run Time:	10 hours 31 minutes
Memory:	71688 K
Required Disk Space:	7527 MB

3.2.1.2 Metadata Evaluation

Metadata files which end in extension, '.met', are located in the same directories as their corresponding output files after CER7.2.1P1 has been executed. Compare the metadata contained in these files with the expected contents of the files with the same names found in directory \$CERESHOME/sarb/data/out_exp/data/sarbsyn, using the diff command.

The only differences between the files should be the production times and differences in the directory paths where the tests were run.

```
diff $CERESHOME/sarb/data/out_comp/data/sarbsyn/  
CER_SYNI_$INSTANCE.met $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER_SYNI_$INSTANCE.met
```

```
diff $CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/  
CER_KQCR_$INSTANCE.met $CERESHOME/sarb/data/out_exp/data/sarbsyn/  
CER_KQCR_$INSTANCE.met
```

3.2.1.3 Execution of Comparison Software for the Main-Processor

This section provides information on how to execute the comparison software for the Synoptic SARB Subsystem PGE CER7.2.1P1.

1. Execute the following to compare the binary output from the Main-Processor Full-Hour Mode test case. Note that this software does not compare the HDF version of the CRS.

```
cd $CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2  
run_syni_compare CER_SYNI_$INSTANCE
```

One file will be created:

- \$CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2/
CER_SYNI_\$INSTANCE_test_suites_results

NOTE: The script run_syni_compare removes any output files leftover from previous executions if they exist. If a file the script is attempting to remove does not exist, a message is written to the screen.

2. Compare the Quality Control Report for the Mode against the expected output:

First, try to remove old output files IF they exist:

```
cd $CERESHOME/sarb/data/out_exp/data/sarbsyn  
rm CER7.2.1P1_MainQC_diff
```

```
diff $CERESHOME/sarb/data/out_comp/qa_reports/sarbsyn/
CER_KQCR_$INSTANCE $CERESHOME/sarb/data/out_exp/data/sarbsyn/
CER_KQCR_$INSTANCE > $CERESHOME/sarb/data/out_exp/data/sarbsyn/
CER7.2.1P1_MainQC_diff
```

The only differences should be in the Processing Date information in the Quality Control Report Header. Some mismatches might occur due to computer precision, thus, there is no need for immediate alarm.

3.2.1.4 Evaluation of Main-Processor Comparison Software Output

This section provides the procedure for evaluating the output from the Synoptic SARB Subsystem 7.2.

1. Examine the comparison report files for the Main-Processor:

```
more $CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2/
CER_SYNI_$INSTANCE\_test_suites_results
```

If all goes well, there will be a line indicating that no mismatches were found when comparing the results produced by the Langley ASDC with those produced by the CERES team. Some mismatches might occur due to computer precision, thus, there is no need for immediate alarm. Just perform Step 2.

2. E-mail the files `$CERESHOME/sarb/test_suites/sarbsyn/src/mainss7_2/CER_SYNI_$INSTANCE_test_suites_results` and `$CERESHOME/sarb/data/out_exp/data/sarbsyn/CER7.2.1P1_MainQC_diff` to `ceresdmt+sarb@larc.nasa.gov`.

3.2.2 Solutions to Possible Problems

1. All output files must be deleted or renamed in order to run the production software properly again. To use the provided script, type the following:

```
cd $CERESHOME/sarb/bin/sarbsyn
rm_script_7.2.1P1 CER7.2.1P1_PCF_$INSTANCE
```

2. Environment variables, FCOMP and F90COMP, must be set to the following SGI compiler options for the Main-Processor:

```
setenv F90COMP '-w -O2 -c -64'
setenv FCOMP '-O2 -c -64'
```

3. A "No match" indicates there were no files to delete during execution of a script. This message does not indicate a problem.

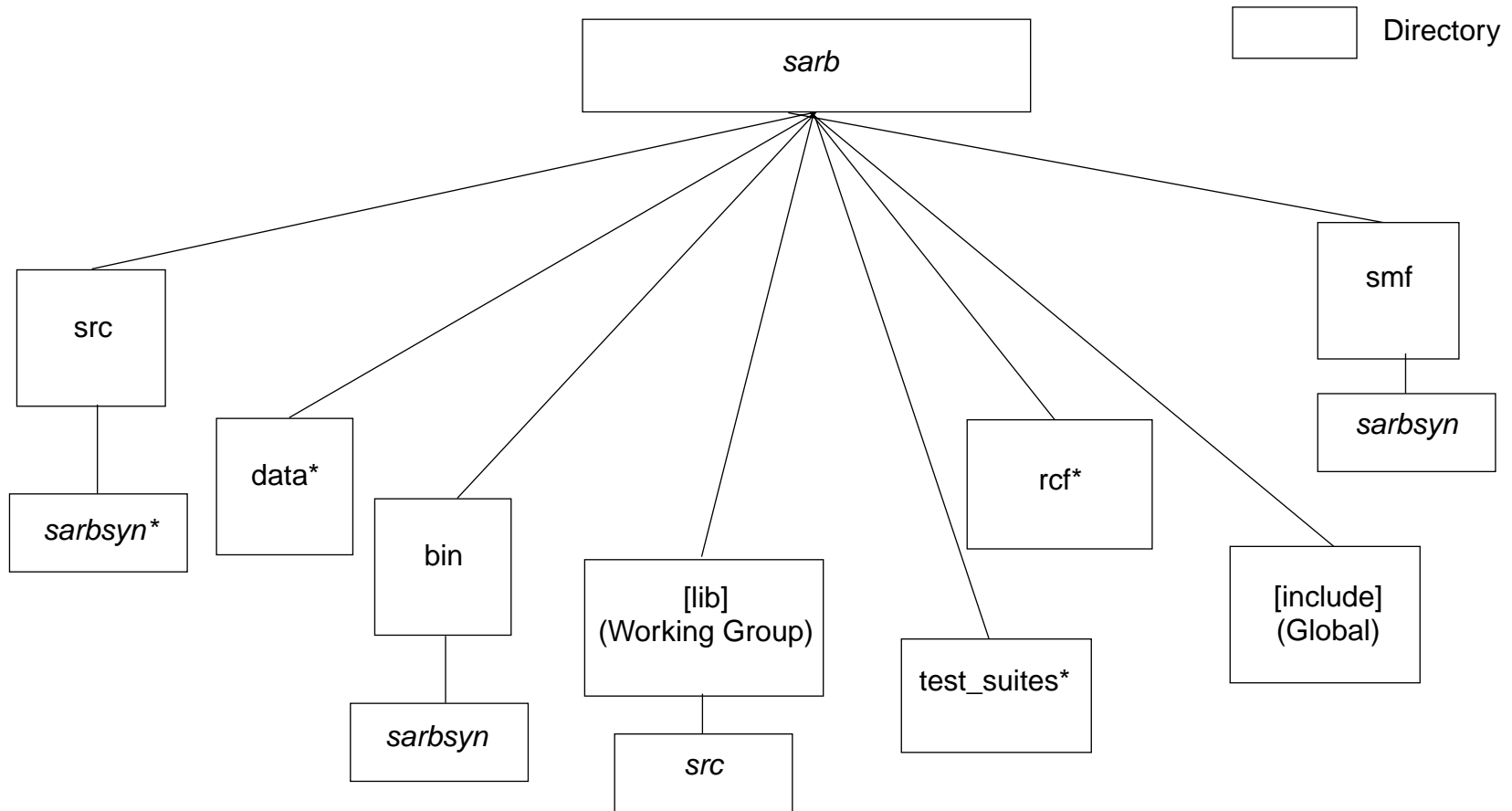
Appendix A

Acronyms and Abbreviations

ASDC	Atmospheric Sciences Data Center
CERES	Clouds and the Earth's Radiant Energy System
CERESlib	CERES library
CRS	Clouds and Radiation Swath
CRSB	Clouds and Radiation Swath Binary
DAAC	Distributed Active Archive Center
DRIVTAB	Derivative Table
EOS	Earth Observing System
EOS-AM	EOS Morning Crossing Mission
EOS-PM	EOS Afternoon Crossing Mission
ERBE	Earth Radiation Budget Experiment
ERBS	Earth Radiation Budget Satellite
FOV	Field-of-View
HDF	Hierarchical Data Format
LaTIS	Langley TRMM Information System
MCF	Metadata Control Files
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
PCF	Process Control File
PGE	Product Generation Executive
QC	Quality Control
SARB	Surface and Atmospheric Radiation Budget
SCF	Science Computing Facility
SMF	Status Message Facility
SYNI	Synoptic Intermediate Product
TRMM	Tropical Rainfall Measuring Mission
TSIB	Time Space Interpolate Binary Product

Appendix B Directory Structure Diagrams

BREAKDOWN OF THE SYNOPTIC SARB DIRECTORY STRUCTURE



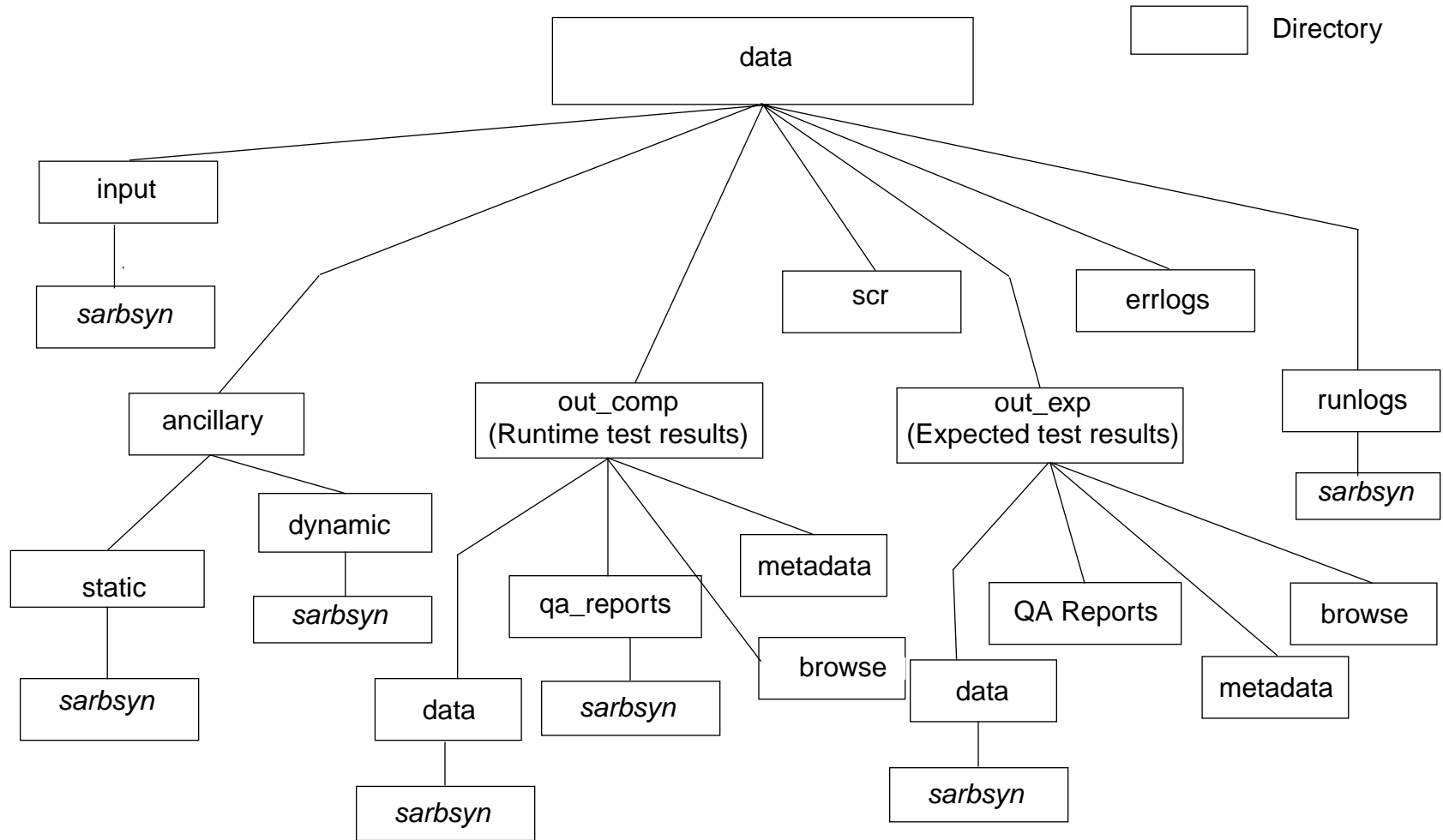
Italicized names are dependent on delivered software

*Breakdown of subdirectories shown on following pages

Names in brackets [] are optional files or directories

Figure B-1. Synoptic SARB Directory Structure (1 of 3)

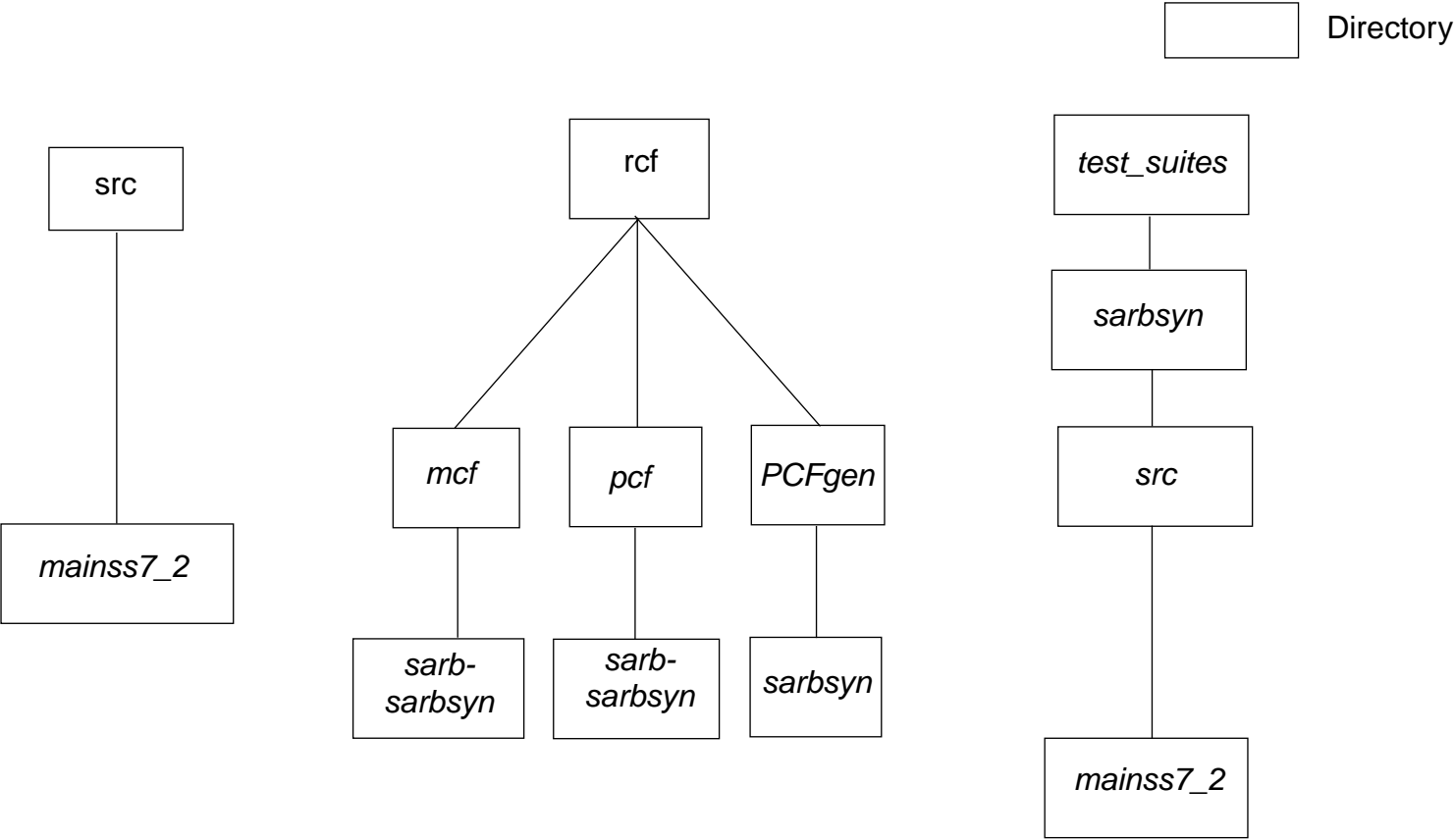
BREAKDOWN OF A DATA DIRECTORY



Italicized names are dependent on delivered software

Figure B-1. Synoptic SARB Directory Structure (2 of 3)

BREAKDOWN OF THE SYNOPTIC SARB DIRECTORY STRUCTURE



Italicized names are dependent on delivered software

Figure B-1. Synoptic SARB Directory Structure (3 of 3)

Appendix C

File Description Tables

C.1 Production Scripts and Executables

Table C.1-1. Production Scripts

File Name	Format	Description
ascii_gen_7.2.1P1	ASCII	C-Shell script which creates the PCF generator's ASCII file needed by the Main-Processor r
pcfgen_7.2.1P1	ASCII	C-Shell script which creates the PCF for the Main-Processor
runsarbsyn	ASCII	C-Shell script which executes the Main-Processor

Table C.1-2. Executables

File Name	Format	Description
SynSARB_Drv.exe ¹	Binary	Main-Processor executable

1. These files will be generated on execution of Subsystem software and are not included in the tar file.

C.2 Processing Control Files (PCF), Metadata Control Files (MCF) and Status Message Files (SMF)

The Process Control Files are not included in the Software Delivery Package. They will be created by the PCF generator scripts.

Table C.2-1. Metadata Control Files

File Name	Format	Description
mcf_sarbsynqc	ODL	MCF for Binary QC Report for Main-Processor
mcf_sarbsyn	ODL	MCF for Binary CRS file for Main-Processor

Table C.2-2. Process Control Files

File Name	Format	Description
CER7.2.1P1_PCF_TRMM-PFM-VIRS_SSIT_000000.199807Z090 ¹	ASCII	Process Control File for Main-Processor

1. These files will be generated on execution of Subsystem software and are not included in the tar file.

Table C.2-3. Status Message Files (SMF) (1 of 2)

File Name	Format	Directory	Description
ANCINIT_25725.t	ASCII	smf/sarb	Toolkit Message File
PGS_25725 ¹	ASCII	PGS_message/sarb	Toolkit Message File
FLSALUT_25724.t	ASCII	smf/sarb	Toolkit Message File
PGS_25724 ¹	ASCII	PGS_message/sarb	Toolkit Message File
GFDLAER_25716.t	ASCII	smf/sarb	Toolkit Message File
PGS_25716 ¹	ASCII	PGS_message/sarb	Toolkit Message File
HCMOCNALB_225723.t	ASCII	smf/sarb	Toolkit Message File
PGS_225723 ¹	ASCII	PGS_message/sarb	Toolkit Message File
IGBPUTIL_25721.t	ASCII	smf/sarb	Toolkit Message File
PGS_25721 ¹	ASCII	PGS_message/sarb	Toolkit Message File
INITSARB_25701.t	ASCII	smf/sarb	Toolkit Message File
PGS_25701 ¹	ASCII	PGS_message/sarb	Toolkit Message File
MSFCALBIO_25722.t	ASCII	smf/sarb	Toolkit Message File
PGS_25722 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_INGEST_25702.t	ASCII	smf/sarb	Toolkit Message File
PGS_25702 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SIGMALOAD_25703.t	ASCII	smf/sarb	Toolkit Message File
PGS_25703 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_TUNEDRV_25704.t	ASCII	smf/sarb	Toolkit Message File
PGS_25704 ¹	ASCII	PGS_message/sarb	Toolkit Message File

Table C.2-3. Status Message Files (SMF) (2 of 2)

File Name	Format	Directory	Description
PGS_FLXRANGE_25705.t	ASCII	smf/sarb	Toolkit Message File
PGS_25705 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_FLMODEL_25706.t	ASCII	smf/sarb	Toolkit Message File
PGS_25706 ¹	ASCII	PGS_message/sarb	Toolkit Message File
SARBMETA_25726.t	ASCII	smf/sarb	Toolkit Message File
PGS_25726 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_MODISAERRD_25751.t	ASCII	smf/sarb	Toolkit Message File
PGS_25751	ASCII	PGS_message/sarb	Toolkit Message File
SARBIOUTIL_25750.t	ASCII	smf/sarb	Toolkit Message File
PGS_25750	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SFCALBCALC_25707.t	ASCII	smf/sarb	Toolkit Message File
PGS_25707 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_SFCALBINGEST_25708.t	ASCII	smf/sarb	Toolkit Message File
PGS_25708 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_DERIVLOAD_25709.t	ASCII	smf/sarb	Toolkit Message File
PGS_25709 ¹	ASCII	PGS_message/sarb	Toolkit Message File
PGS_WRAPSARB_25710.t	ASCII	smf/sarb	Toolkit Message File
PGS_25710 ¹	ASCII	PGS_message/sarb	Toolkit Message File
INITSYN_26003.t	ASCII	smf/sarb	Toolkit Message File
PGS_26003	ASCII	PGS_message/sarb	Toolkit Message File
REGDRV_26005.t	ASCII	smf/sarb	Toolkit Message File
PGS_26005	ASCII	PGS_message/sarb	Toolkit Message File
TSIRET_26004.t	ASCII	smf/sarb	Toolkit Message File
PGS_26004	ASCII	PGS_message/sarb	Toolkit Message File
WRAPSYN_26006.t	ASCII	smf/sarb	Toolkit Message File
PGS_26006	ASCII	PGS_message/sarb	Toolkit Message File

1. These files will be generated on execution of Subsystem software and are not included in the tar file.

C.3 Ancillary Input Data

The Synoptic SARB Subsystem accesses several ancillary input data files. Many of these files are shared with the Instantaneous SARB Subsystem PGE CER5.1P1, and are thus located in either the \$CERESHOME/sarb/data/ancillary/static/sarb or the \$CERESHOME/sarb/data/ancillary/dynamic/sarb directory. Ancillary input data files only accessed by the Synoptic SARB Subsystem PGE CER7.2.1P1 are located in the \$CERESHOME/sarb/data/ancillary/static/sarbsyn directory.

Table C.3-1. Ancillary Input Data

File Name	Format	Description	Static/Dynamic
SS5_DrivTab_19990315	Binary	Derivative tables	Static
IGBP_Ver3.0	Binary	IGBP map	Static
SigTab_Synoptic_20040730	ASCII	Sigma tables	Static
CollinsAer_1998TRMM_Ver3.0	Binary	Collins-based assimilated aerosol climatology	Static
SS5_ZJin_OcnAlb_20011218	Binary	Coefficients for Zhonghai Jin surface albedo over ocean retrieval	Static
SS5_GFDLAerClim_200006	Binary	Geophysical Fluid Dynamics Laboratory (GFDL) Aerosol climatology	Static
flsa0404_lut.2s.coef	Binary	Surface Albedo look up table for Fu-Liou model	Static
flsa3_lut.4s.coef_19991215	Binary	Surface Albedo look up table for Fu-Liou model	Static
flsa4_lut.2s.coef_19991215	Binary	Surface Albedo look up table for Fu-Liou model	Static
MATCH_TERRA_AOTS_MODIS.yyyymmdd (in match_aot/match_aots_yyyymm/)	Binary	Match aerosol data for Terra processing	Static
MATCH_TERRA_VERTICAL_MODIS.yyyymmdd (in match_vert/match_verts_yyyymm/)	Binary	Match aerosol profile data for Terra processing	Static

C.4 Output Temporary Data Files (Production Results)

Table C.4-1. Output Temporary Data Files

File Name	Format	Description
CER7.2.1P1_PCFin_TRMM-PFM-VIRS_SSIT_000000.199807Z090 ¹	ASCII	ASCII file created by the ASCII file generator to be used to produce PCF generator used by both the Main-Processor and the HDF Post-Processor for the Full-Hour Mode.

1. These files will be generated on execution of Subsystem software and are not included in the tar file.